

Appl. No. 10/017,093  
Reply to Final Office Action of June 15, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Withdrawn) A system for navigating a vehicle comprising:

at least one sensor situated in the vehicle, the at least one sensor for sensing at least one datum corresponding to at least one of an instantaneous sensor value and a time-averaged sensor value, the at least one sensor electrically coupled to a vehicle bus;

a gateway node situated in the vehicle, the gateway node electrically coupled to the vehicle bus, the at least one sensor for communicating the at least one datum to the gateway node via the vehicle bus using a network protocol;

a processor, the gateway node for communicating the at least one datum to the processor using a wireless communication protocol; and

a positioning device, the positioning device electrically coupled to the processor, the processor adapted to use at least one of a former position, an initial position, and the at least one datum to determine a current position.

2. (Withdrawn) The system of claim 1, wherein the wireless communication protocol is a Bluetooth protocol.

3. (Withdrawn) The system of claim 2, wherein the network protocol is a Controller Area Network protocol.

4. (Withdrawn) The system of claim 3, wherein the gateway node is a Controller Area Network/Bluetooth gateway node.

5. (Withdrawn) The system of claim 1, further comprising a memory, wherein the processor saves the current position in the memory, the current position becoming the former position when the processor retrieves the current position from the memory.

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6. (Withdrawn) The system of claim 1, wherein the at least one sensor is at least one of a wheel speed sensor, a velocity sensor, a yaw rate sensor, a steering angle sensor, a body-slip angle sensor, an attitude sensor, and an inertial sensor.

7. (Withdrawn) The system of claim 1, wherein the processor is situated in a hand-held computer.

8. (Withdrawn) A device for navigating a vehicle comprising:

a processor, the processor for receiving at least one datum wirelessly from a gateway node using a wireless communication protocol, the at least one datum corresponding to at least one of an instantaneous sensor value and a time-averaged sensor value; and

a positioning device coupled to the processor, the processor adapted to use at least one of a former position, an initial position, and the at least one datum to determine a current position.

9. (Withdrawn) The device of claim 8, wherein:

the wireless communication protocol is a Bluetooth protocol; and

the gateway node is a Controller Area Network/Bluetooth gateway node.

10. (Withdrawn) The device of claim 8, wherein the positioning device communicates the initial position to the processor.

11. (Withdrawn) The device of claim 8, further comprising a memory, wherein the processor saves the current position in the memory, the current position becoming the former position when the processor retrieves the current position from the memory.

12. (Withdrawn) The device of claim 8, wherein the processor is situated in a hand-held computer.

13. (Withdrawn) The device of claim 12, wherein the processor and the positioning device are integrated in one unit.

14. (Withdrawn) The device of claim 12, wherein the positioning device is at least one of a GPS receiver, a DGPS receiver, an AGPS receiver, and a cell-phone-based positioning system.

15. (Withdrawn) The device of claim 14, wherein the processor determines the current position in an area of at least one of low-coverage and no-coverage of at least one of a cellphone-based positioning system and a satellite navigation system.

16. (Withdrawn) A method for navigating a vehicle comprising:

measuring at least one datum by at least one sensor, the at least one datum being at least one of an instantaneous value and a time-averaged value;

transmitting electronically the at least one datum from the at least one sensor to a gateway node via a vehicle bus using a network protocol;

transmitting wirelessly the at least one datum from the gateway node to a processor using a wireless communication protocol;

receiving an initial position from a positioning device at the processor; and calculating a current position by the processor using at least one of a former position, the initial position, and the at least one datum.

17. (Withdrawn) The method of claim 16, further comprising communicating an initial position from the positioning device to the processor.

18. (Withdrawn) The method of claim 16, further comprising saving by the processor the current position in a memory, the current position becoming the former position when the processor retrieves the current position from the memory.

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19. (Withdrawn) The method of claim 16, further comprising determining, by the processor, the current position in an area of at least one of low-coverage and no-coverage of at least one of a cellphone-based positioning system and a satellite navigation system.

20. (Currently Amended) A system for monitoring at least one apparatus in a vehicle comprising:

at least one sensor situated in the vehicle for sensing at least one error code of the at least one apparatus, the at least one sensor being electrically being coupled to a vehicle bus;

a gateway node situated in the vehicle, the gateway node being electrically coupled to the vehicle bus, the at least one sensor for communicating the at least one error code to the gateway node via the vehicle bus using a network protocol, the gateway node including a controller arrangement and a first wireless protocol arrangement, the first wireless protocol arrangement being coupled to the controller arrangement; and

a processor, the gateway node communicating the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol;

wherein the at least one error code concerns diagnostics information and is accessible from the vehicle bus.

21. (Previously Presented) The system of claim 20, wherein the wireless communication protocol includes a Bluetooth protocol, the first wireless protocol arrangement includes a first Bluetooth hardware arrangement, and the second wireless protocol arrangement includes a second Bluetooth hardware arrangement.

22. (Previously Presented) The system of claim 21, wherein the network protocol includes a Controller Area Network protocol.

23. (Previously Presented) The system of claim 22, wherein the gateway node includes a Controller Area Network/Bluetooth gateway node.

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24. (Previously Presented) The system of claim 20, wherein the at least one sensor interrogates the at least one apparatus for the at least one error code when a request is received from a user.
25. (Previously Presented) The system of claim 20, wherein the at least one apparatus is at least one of a brake system, an engine system, an electrical system, and an auxiliary system.
26. (Previously Presented) The system of claim 20, further comprising:
  - a cellphone communicator electrically coupled to the processor; and
  - a remote application for communicating with the cellphone communicator via a cellphone base station;
  - wherein the remote application is for receiving the at least one error code.
27. (Canceled).
28. (Canceled).
29. (Previously Presented) The system of claim 20, wherein the processor compares the at least one error code to a look-up table to determine a status code.
30. (Previously Presented) The system of claim 29, wherein the status code is communicated to a user.
31. (Previously Presented) The system of claim 30, wherein the status code is communicated to a user by at least one of a visual display unit and an audible signal.
32. (Currently Amended) The system of claim [[27]] 20, wherein the processor is in a hand-held computer to enable [[the]] a user to display and analyze vehicle diagnostics on the handheld computer.

33. (Previously Presented) A method for monitoring at least one apparatus in a vehicle, the method comprising:

sensing, with at least one sensor situated in the vehicle, at least one error code of the at least one apparatus, wherein the at least one sensor is electrically coupled to a vehicle bus that is also electrically coupled to a gateway node situated in the vehicle,

communicating, with the at least one sensor, the at least one error code to the gateway node via the vehicle bus using a network protocol, wherein the gateway node includes a controller arrangement and a first wireless protocol arrangement, and the first wireless protocol arrangement is coupled to the controller arrangement; and

communicating, from the gateway node to a processor, the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol;

wherein the at least one error code includes diagnostics information and is accessible from the vehicle bus.

34. (Previously Presented) The method of claim 33, further comprising:

comparing by the processor the at least one error code to a look-up table to determine a status code.

35. (Previously Presented) The method of claim 34, further comprising:

communicating the status code to a user.

36. (Previously Presented) The method of claim 35, further comprising:

communicating the status code to a user by at least one of a visual display unit and an audible signal.

37. (Previously Presented) The method of claim 36, further comprising:

interrogating by the at least one sensor the at least one apparatus for the at least one error code when a request is received from the user.

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38. (Previously Presented) The method of claim 33, wherein the wireless communication protocol includes a Bluetooth protocol, the first wireless protocol arrangement includes a first Bluetooth hardware arrangement, and the second wireless protocol arrangement includes a second Bluetooth hardware arrangement.

39. (Previously Presented) The method of claim 38, wherein the network protocol includes a Controller Area Network protocol.